What is claimed is:

1. A recombinant expression system for processing a substantially pure enzyme comprising:
   a) a host cell capable of expressing a first nucleotide sequence encoding a phytase enzyme having the amino acid sequence as set forth in SEQ ID NO:2; and
   b) a nucleotide sequence encoding said enzyme is operably linked to transcription controlling nucleotide sequences operable in said host cell.

2. A transfer vector which comprises the expression system according to claim 1.

3. The expression system of claim 1 wherein the control sequences comprise a constitutive promoter.

4. The expression system of claim 1 wherein the control sequences comprise a tissue-specific promoter.

5. The expression system of claim 1 wherein said host cell is prokaryotic cell.

6. The expression system of claim 1 wherein said host cell is eukaryotic cell.

7. The expression system of claim 1 wherein said host cell is a higher plant cell.

8. The expression system of claim 1 wherein said first nucleotide sequence is preceded by a second nucleotide sequence encoding a signal peptide operably linked to said protein.

9. The expression system of claim 8 wherein said signal peptide is the PR protein PR-S signal peptide from tobacco.

10. A prokaryotic cell modified to contain the expression system of claim 1.

11. A eukaryotic cell modiifed to contain the expression system of claim 1.

12. A plant cell or the cells of plant parts or intact plants modified to contain the expression system of claim 1.

13. A method to produce a microbial phytase in a plant cell, plant part or plant which method comprises:

a) culturing the plant cell, plant part or plant of claim 12 under conditions wherein said first nucleotide sequence is expressed; and

b) converting said plant cells, plant parts or plants into a composition suitable for animal feed.

14. A feed composition for animals which comprises the plant seeds, plant cells, plant parts or plants of claim 13 in admixture with phytate-containing foodstuff.

15. A method to treat a human or an animal able to benefit from digestive enhancement by the activity of an exogenous phytase enzyme, which method comprises orally administering to said human or animal an amount of plant seeds, plant cells, plant parts or plants of a transgenic plant effective to provide the phytase activity in said human's or animal's digestive tract, wherein said plant has been modified to contain an expression system which expresses a nucleotide sequence encoding said phytase enzyme in its seeds, cells or plant parts.